

**REMARKS**

Claims 1-28 were pending in this application.

Claims 1-28 have been rejected.

Claims 1, 2, 5-9, 12-14, 22, 23, and 26-28 have been amended as shown above.

Claim 29 has been added.

Claims 1-29 are now pending in this application.

Reconsideration and full allowance of Claims 1-29 are respectfully requested.

**I. REJECTION UNDER 35 U.S.C. § 112**

The Office Action rejects Claims 1-28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. In particular, the Office Action asserts that the Applicants' specification does not enable one skilled in the art to make and use a "simulation controller," a "memory access monitor," and a "memory optimization controller." (*Office Action, Page 2, Section 1.1*). The Applicants respectfully traverse this rejection.

The enablement requirement requires that a patent application describe how to make and use the claimed invention. (*MPEP § 2164*). To establish non-enablement, the burden is on the Patent Office to show that a person skilled in the art cannot make and use the claimed invention "without undue experimentation." (*MPEP § 2164.01*). There are many factors to be considered when determining whether a disclosure satisfies the enablement requirement, including the breadth of the claims, the state of the prior art, the level of one of ordinary skill, the level of predictability in the art, and the amount of direction provided by the inventor. (*MPEP § 2164.01(a)*). The determination that

“undue experimentation” is needed must represent “a conclusion reached by weighing all the above noted factual considerations.” (*MPEP § 2164.01(a)*).

First, the Applicants respectfully note that the Office Action contains no analysis of the enablement factors. In particular, the Office Action fails to analyze the various factors and show that a person skilled in the art cannot make and use the claimed invention without undue experimentation. In fact, the Office Action fails to even mention the phrase “undue experimentation.” As a result, the Office Action has not met its burden of establishing non-enablement.

Second, the Office Action states that the “motivation” for the enablement rejection is based on the disclosure in Gupta et al., “Processor Evaluation in an Embedded Systems Design Environment” (“*Gupta*”). However, the MPEP and § 112 do not allow the Patent Office to simply identify a reference that contains information about a subject and then reject the claims in a patent application as not being enabled. The MPEP and § 112 require an analysis of the Applicants’ specification as filed and a finding that the specification as filed does not enable a person skilled in the relevant art.

Third, the specification clearly describes the operation of various components of an apparatus 100, including “one or more memory design and optimization application programs.” (*Application, Page 11, Lines 5-10*). The Office Action contains no explanation as to why a person skilled in the relevant art could not make and use the claimed invention in light of the information provided in the specification. Moreover, if *Gupta* qualifies as prior art against this patent application, a person skilled in the relevant art would be presumed to know and understand the contents of *Gupta*. This

would weigh in favor of the Applicants and a finding of enablement. The Office Action contains no analysis as to how this factor is outweighed by the remaining enablement factors.

For these reasons, the Applicants respectfully submit that the specification as originally filed enables the claimed invention as recited in Claims 1-28. Accordingly, the Applicants respectfully request withdrawal of the § 112 rejection.

## II. REJECTIONS UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1, 2, 5, 7-9, 12, 14-23, 26, and 28 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al., “Processor Evaluation in an Embedded Systems Design Environment” (“*Gupta*”) in view of U.S. Patent No. 6,263,302 to Hellestrand et al. (“*Hellestrand*”). The Office Action rejects Claims 3, 4, 10, 11, 24, and 25 under 35 U.S.C. § 103(a) as being unpatentable over *Gupta* in view of U.S. Patent No. 6,604,067 to Abraham et al. (“*Abraham*”). The Office Action rejects Claims 6, 13, and 27 under 35 U.S.C. § 103(a) as being unpatentable over *Gupta* in view of U.S. Patent No. 6,052,524 to Pauna (“*Pauna*”). These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness

is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. MPEP § 2142.

*Gupta* recites a methodology for embedded systems design. (*Page 3, Second paragraph*). The objective of *Gupta* is to evaluate a range of target processors using an “application behavior specification” to determine the processors’ suitability for use. (*Page 3, Third paragraph*).

Claim 1 recites a memory access monitor capable of “monitoring memory accesses to a simulated memory space” during “simulated execution” of a program, where the memory accesses

include “read operations and write operations.” The Office Action asserts that *Gupta* anticipates these elements of Claim 1 in Section 5.4. (*Office Action, Page 3, Section 2.1.1*).

Section 5.4 of *Gupta* recites a “memory bandwidth requirement” module that “computes the ratio of the number of input-output instructions to the total number of instructions.” (*Page 25, Last paragraph*). This portion of *Gupta* simply recites that the number of input-outputs are counted and the total number of instructions are counted. This portion of *Gupta* lacks any mention of monitoring “memory accesses” to a “simulated memory space” during “simulated execution” of a program, where the memory accesses include “read operations and write operations” as recited in Claim 1.

Claim 1 also recites a memory optimization controller capable of comparing “memory usage statistical data” produced by the memory access monitor to one or more “design criteria” to determine at least one “memory configuration” capable of satisfying the design criteria. The Office Action asserts that *Gupta* anticipates these elements of Claim 1 in Figure 2.1. (*Office Action, Page 4, Section 2.1.1*).

Figure 2.1 of *Gupta* simply illustrates the overall methodology of *Gupta*. This portion of *Gupta* lacks any mention of comparing “memory usage statistical data” to one or more “design criteria” as recited in Claim 1. Moreover, this portion of *Gupta* lacks any mention of determining at least one “memory configuration” capable of satisfying design criteria as recited in Claim 1. In particular, the objective of *Gupta* is to evaluate target processors. The cited portion of *Gupta* contains no mention of determining any type of “memory configuration” as recited in Claim 1.

*Hellestrand* is not cited by the Office Action as disclosing, teaching, or suggesting these elements of Claim 1. As a result, the Office Action has not shown that the proposed *Gupta*-

*Hellestrand* combination discloses, teaches, or suggests all elements of Claim 1. Claims 8 and 22 recite elements that are analogous to the novel and non-obvious elements of Claim 1 described above. As a result, the Office Action has not shown that the proposed *Gupta-Hellestrand* combination discloses, teaches, or suggests all elements of Claims 8 and 22.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claims 1, 8, and 22 (and their dependent claims). Accordingly, the Applicants respectfully request withdrawal of the § 103 rejections and full allowance of Claims 1-28.

**III. NEW CLAIM**

The Applicants have added new Claim 29. The Applicants respectfully submit that no new matter has been added. The Applicants respectfully request entry and allowance of Claim 29.

**IV. CONCLUSION**

The Applicants respectfully assert that all pending claims in the application are in condition for allowance and respectfully request an early allowance of such claims.

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**SUMMARY**

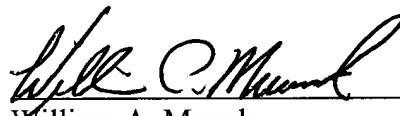
If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@davismunck.com](mailto:wmunck@davismunck.com).

The Applicants have included a check in the amount of \$18.00 to cover the cost of this amendment. The Commissioner is hereby authorized to charge any additional fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

DAVIS MUNCK, P.C.

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